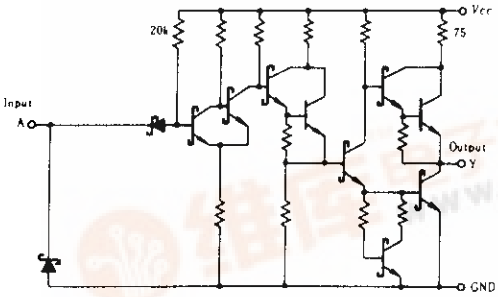
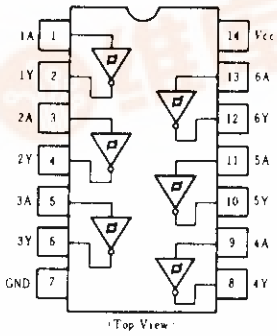
HD74LS14 ●Hex Schmitt Trigger Inverters

■CIRCUIT SCHEMATIC(1/6)



■PIN ARRANGEMENT



(Top View)

■ELECTRICAL CHARACTERISTICS (Ta=−20～+75°C)

Item	Symbol	Test Conditions		min	typ*	max	Unit
Input threshold voltage	V_{T^+}	V_{CC}=5V		1.4	1.6	1.9	V
	V_{T^-}	V_{CC}=5V		0.5	0.7	1.0	V
Hysteresis	$V_{T^+}-V_{T^-}$	V_{CC}=5V		0.4	0.9	—	V
Output voltage	V_{OH}	V_{CC}=4.75V, V_I=0.5V, I_{OH}=−400μA		2.7	—	—	V
	V_{OL}	V_{CC}=4.75V, V_I=1.9V	I_{OL}=8mA	—	—	0.50	V
			I_{OL}=4mA	—	—	0.40	
Input threshold current	I_{T^+}	V_{CC}=5V, $V_I=V_{T^+}$		—	−0.14	—	mA
	I_{T^-}	V_{CC}=5V, $V_I=V_{T^-}$		—	−0.18	—	mA
Input current	I_{IH}	V_{CC}=5.25V, V_I=2.7V		—	—	20	μA
	I_{IL}	V_{CC}=5.25V, V_I=0.4V		—	—	−0.4	mA
	I_I	V_{CC}=5.25V, V_I=7V		—	—	0.1	mA
Short-circuit output current	I_{OS}	V_{CC}=5.25V		−20	—	−100	mA
Supply current	I_{CCH}	V_{CC}=5.25V		—	8.6	16	mA
	I_{CCL}	V_{CC}=5.25V		—	12	21	mA
Input clamp voltage	V_{IK}	V_{CC}=4.75V, I_{IN}=−18mA		—	—	−1.5	V

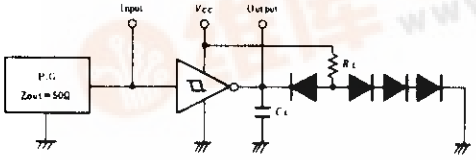
* V_{CC}=5V, Ta=25°C

■SWITCHING CHARACTERISTICS (V_{CC}=5V, Ta=25°C)

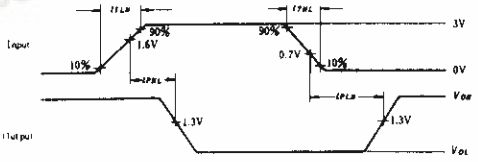
Item	Symbol	Test Conditions	min	typ	max	Unit
Propagation delay time	t_{PLH}	C_L=15pF, R_L=2kΩ	—	15	22	ns
	t_{PHL}		—	15	22	ns

■TESTING METHOD

1. Test Circuit

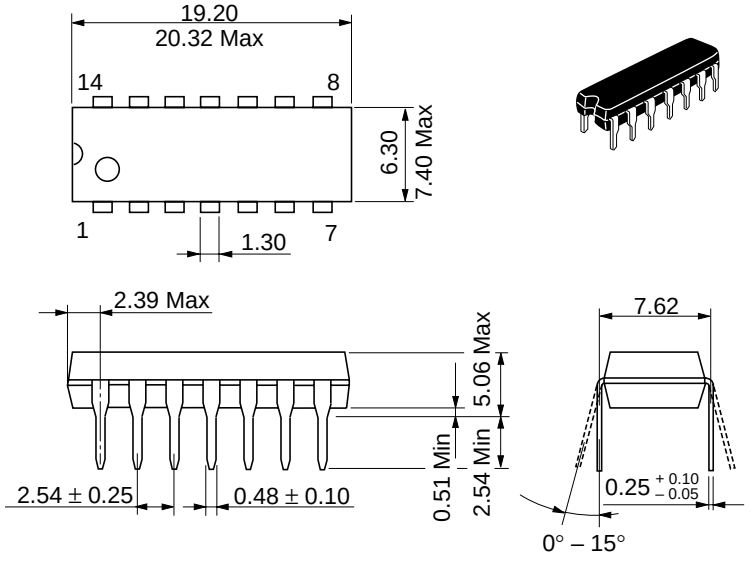


Waveform

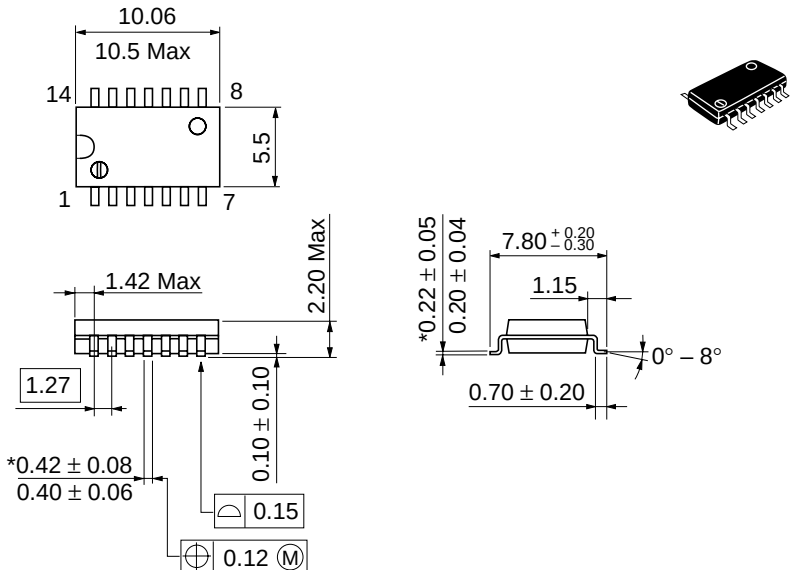


Notes) 1. Input pulse; t_{TLH}≦15ns, t_{THL}≦6ns, PRR=1MHz, duty cycle=50%
2. C_L includes probe and jig capacitance.
3. All diodes are 1S2074 Ⓗ.

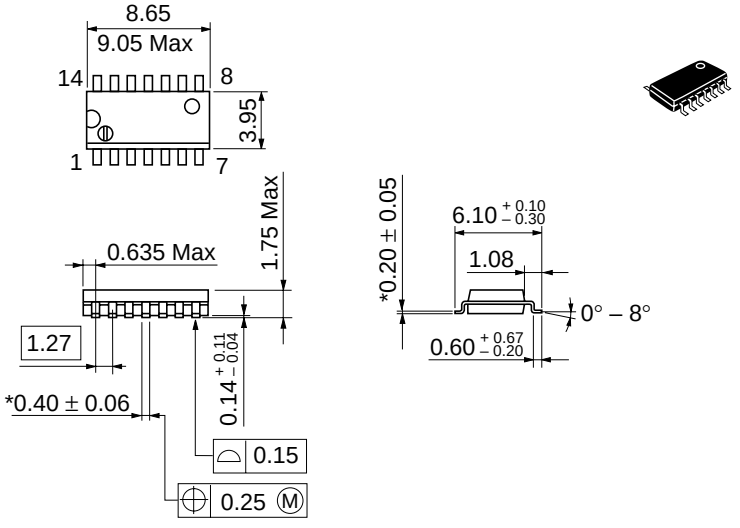
Unit: mm


19.20
20.32 Max
14
8
6.30
7.40 Max
1
1.30
7
2.39 Max
5.06 Max
0.51 Min
2.54 Min
2.54 ± 0.25
0.48 ± 0.10
7.62
0.25 +0.10 −0.05
0° – 15°

Unit: mm


10.06
10.5 Max
14
8
1
7
5.5
1.42 Max
2.20 Max
1.27
0.10 ± 0.10
*0.42 ± 0.08
0.40 ± 0.06
0.15
0.12 M
*0.22 ± 0.05
0.20 ± 0.04
7.80 +0.20 −0.30
1.15
0° – 8°
0.70 ± 0.20

Unit: mm


8.65
9.05 Max
14
8
3.95
1
7
1.75 Max
0.635 Max
1.27
*0.40 ± 0.06
0.14 +0.11 −0.04
0.15
0.25 M
*0.20 ± 0.05
6.10 +0.10 −0.30
1.08
0° – 8°
0.60 +0.67 −0.20

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HITACHI

Hitachi, Ltd.
Semiconductor & Integrated Circuits.
Nippon Bldg., 2-6-2, Ohte-machi, Chiyoda-ku, Tokyo 100-0004, Japan
Tel: Tokyo (03) 3270-2111 Fax: (03) 3270-5109

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For further information write to:

Hitachi Semiconductor
(America) Inc.
179 East Tasman Drive,
San Jose,CA 95134
Tel: <1> (408) 433-1990
Fax: <1>(408) 433-0223

Hitachi Europe GmbH
Electronic components Group
Dornacher Stra§e 3
D-85622 Feldkirchen, Munich
Germany
Tel: <49> (89) 9 9180-0
Fax: <49> (89) 9 29 30 00

Hitachi Europe Ltd.
Electronic Components Group.
Whitebrook Park
Lower Cookham Road
Maidenhead
Berkshire SL6 8YA, United Kingdom
Tel: <44> (1628) 585000
Fax: <44> (1628) 778322

Hitachi Asia Pte. Ltd.
16 Collyer Quay #20-00
Hitachi Tower
Singapore 049318
Tel: 535-2100
Fax: 535-1533

Hitachi Asia Ltd.
Taipei Branch Office
3F, Hung Kuo Building. No.167,
Tun-Hwa North Road, Taipei (105)
Tel: <886> (2) 2718-3666
Fax: <886> (2) 2718-8180

Hitachi Asia (Hong Kong) Ltd.
Group III (Electronic Components)
7/F., North Tower, World Finance Centre,
Harbour City, Canton Road, Tsim Sha Tsui
Kowloon, Hong Kong
Tel: <852> (2) 735 9218
Fax: <852> (2) 730 0281
Telex: 40815 HITEC HX